

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1-11. (Canceled)

12. (Currently Amended) A method of operating a proxy on a network, the method comprising:

storing an association of service providers and cryptographic keys;

receiving a request from a mobile device, the request directed to a remote server on the network;

using the stored association to identify a cryptographic key associated with the remote server;

using the identified cryptographic key to encode an identifier of the mobile device;

incorporating the encoded identifier into a proxy request; and

sending the proxy request to the remote server on behalf of the mobile device;

receiving a request from a service initiator on the network to push information to the mobile device;

determining whether the stored association includes a cryptographic key associated with the service initiator;

if the stored association includes a cryptographic key associated with the service initiator, using said cryptographic key to decode a device identifier in the request from the service initiator;

determining whether the decoded device identifier corresponds to the mobile device; and

allowing the request from the service initiator to be fulfilled only if the stored association includes a cryptographic key associated with the service initiator and the decoded device identifier corresponds to the mobile device.

13. (Original) A method as recited in claim 12, wherein said storing an association of service providers and cryptographic keys comprises storing a unique cryptographic key for each of a plurality of service providers.

14. (Original) A method as recited in claim 13, wherein the stored association specifies a plurality of network addresses for at least one of the plurality of service providers, and wherein said using the stored association to identify a cryptographic key comprises identifying a cryptographic key associated with a network address to which the request is directed.

15. (Original) A method as recited in claim 12, wherein said using the identified cryptographic key to encode an identifier of the mobile device comprises hashing the cryptographic key with the identifier of the mobile device.

16. (Canceled)

17. (Original) A method of operating a proxy on a network, the method comprising:
storing an association of service initiators and cryptographic keys, including a plurality of cryptographic keys and one or more network addresses associated with

each of the cryptographic keys;

receiving a request from a service initiator on the network to push information to a mobile device;

determining whether the stored association includes a cryptographic key associated with the service initiator;

if the stored association includes a cryptographic key associated with the service initiator, using said cryptographic key to decode a device identifier in the request from the service initiator;

determining whether the decoded device identifier corresponds to the mobile device; and

allowing the request from the service initiator to be fulfilled only if the stored association includes a cryptographic key associated with the service initiator and the decoded device identifier corresponds to the mobile client device.

18. (Original) A method as recited in claim 17, wherein said using the identified cryptographic key to encode an identifier of the mobile device comprises hashing the cryptographic key with the identifier of the mobile device.

19. (Original) A method as recited in claim 17, further comprising:

receiving a request from the mobile device, the request directed to a network address representing a remote server on the network;

using the stored association to identify a cryptographic key associated with the remote server;

generating a proxy request based on the request received from the mobile

device, by using the identified cryptographic key associated with the remote server to encode an identifier of the mobile device and incorporating the encoded identifier into the proxy request; and

sending the proxy request to the remote server on behalf of the mobile device.

20-22. (Canceled)

23. (Original) A method of operating a proxy on a network, the method comprising:

storing an association of service initiators and cryptographic keys, including a plurality of cryptographic keys and one or more network addresses associated with each of the cryptographic keys;

receiving a request from a mobile client device, the request directed to a network address representing a remote server on the network;

using the stored association to identify a cryptographic key associated with the remote server;

generating a proxy request based on the request received from the mobile client device, by using the identified cryptographic key to encode an identifier of the mobile client device and incorporating the encoded identifier into the proxy request;

sending the proxy request to the remote server on behalf of the mobile client device;

receiving a request from a service initiator on the network to push information to the mobile client device;

determining whether the stored association includes a cryptographic key associated with the service initiator;

if the stored association includes a cryptographic key associated with the service initiator, using said cryptographic key to decode a client identifier in the request from the service initiator;

determining whether the decoded client identifier corresponds to the mobile client device; and

allowing the request from the service initiator to be fulfilled only if the stored association includes a cryptographic key associated with the service initiator and the decoded client identifier corresponds to the mobile client device.

24. (Original) A method as recited in claim 23, wherein said using the identified cryptographic key to encode an identifier of the mobile client device comprises hashing the cryptographic key with the identifier of the mobile client device.

25. (Original) A method of operating a server, the method comprising:

receiving a request to provide first information to a mobile client device on a wireless network, the request including an encrypted identifier of the mobile client device;

sending the first information in response to the request, for communication to the mobile client device; and

sending a request to push second information to the mobile client device by including the encrypted identifier in the request to push the second information to the client device, such that the encrypted identifier in the request to push the second information is used to validate the request to push the second information.

26-36 (Canceled)

37. (Currently amended) A proxy gateway connected to a wireless network and to a wired network, the proxy gateway configured to provide a plurality of mobile devices on the wireless network with access to a plurality of processing systems on the wired network, the proxy gateway comprising:

a processor; and

a storage medium having stored therein instructions which configure the proxy gateway to perform the method comprising

storing an association of service providers and cryptographic keys;

receiving a request from a mobile device on the wireless network, the request directed to a remote server on the wired network;

using the stored association to identify a cryptographic key associated with the remote server;

using the identified cryptographic key to encode an identifier of the mobile device;

incorporating the encoded identifier into a proxy request; and

sending the proxy request to the remote server on behalf of the mobile device;

receiving a request from a service initiator on the wired network to push information to one of the mobile devices on the wireless network;

determining whether the stored association includes a cryptographic key associated with said service initiator;

if the stored association includes a cryptographic key associated with said service initiator, using said cryptographic key to decode a device identifier in the request

from said service initiator;

_____ determining whether the decoded device identifier corresponds to said one of the mobile devices; and

_____ allowing the request from the service initiator to be fulfilled only if the stored association includes a cryptographic key associated with said service initiator and the decoded device identifier corresponds to said one of the mobile devices.

38. (Original) A proxy gateway as recited in claim 37, wherein said storing an association of service providers and cryptographic keys comprises storing a unique cryptographic key for each of a plurality of service providers.

39. (Original) A proxy gateway as recited in claim 38, wherein the stored association specifies a plurality of network addresses for at least one of the plurality of service providers, and wherein said using the stored association to identify a cryptographic key comprises identifying a cryptographic key associated with a network address to which the request is directed.

40. (Original) A proxy gateway as recited in claim 37, wherein said using the identified cryptographic key to encode an Identifier of the mobile device comprises hashing the cryptographic key with the identifier of the mobile device.

41. (Canceled)